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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/677,403 | 10/01/2003 | Sandeep Gulati | VIALO-27 | 8885 |

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| EXAMINER |
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KIM, YOUNG J

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| ART UNIT | PAPER NUMBER |
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1637

DATE MAILED: 06/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|------------------------|---------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 10/677,403 | GULATI, SANDEEP | |
| | Examiner | Art Unit | |
| | Young J. Kim | 1637 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 April 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 and 13-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 13-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

The instant Office Action is provided in response to the Amendment received on April 20, 2005.

Upon careful consideration of the claims in light of the instant specification, the following rejections are necessitated and hence, the present action is made **Non-Final**.

Claim Interpretation

While the specification appears to have discussion regarding the term, "viral diffusion curve," all discussions appearing therein are exemplary and as no specific definition exists for this term, for the purpose of prosecution, the term have been interpreted to mean any plot generated from experiment pertaining to virus.

Claim Rejections - 35 USC § 112

The rejection of claims 3 and 5 under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for a system and a computer product which performs some type of interferometry to amplify signals associated with the biological sample, does not reasonably provide enablement for generic processing to amplify such signals as for example, claim 2, made in the Office Action mailed on March 25, 2005 is withdrawn in view of the Amendment received on April 20, 2005.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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Claims 1-5, 13-19, and 21-26 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 is rejected for reciting the phrase, “a preconditioning unit that pre-conditions the digitized output pattern to facilitate an interferometric interaction.” The phrase does not clearly define what is achieved by the preconditioning unit. It simply recites that the precondition unit, “pre-conditions” the digitized output pattern which results in facilitation of an interferometric interaction. A skilled artisan reading this language would not know what is actually achieved by the preconditioning unit as the function associated with the unit is generically described as that which “preconditions.” While the latter phrase, “to facilitate interferometric interaction,” have been inserted, the phrase fails to describe the preconditioning unit. For example, a module that “modulates to facilitate detection” no more describes the function of the module than the phrase reciting “a module that modulates.” As it cannot be determined what metes and bounds are embraced by the above phrase, the claim is deemed indefinite.

Claims 21-22 are indefinite by way of their dependency on claim 1.

Claim 13 is indefinite for the same reasons as discussed in the rejection of claim 1.

Claims 14-19 are indefinite for their dependency on claim 13.

Claim 2 is indefinite for the recitation of the phrase, “tessellation means for tessellating the output pattern to facilitate signal processing,” because the phrase invokes means-plus-function, wherein MPEP 2106(II)(C) clearly states that the claim limitation must be interpreted to read on only the structures or materials disclosed in the specification and equivalents thereof

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(in accordance with 112, sixth paragraph). The instant specification does not have any description regarding the tessellation means.

Claim 2 is indefinite for the recitation of the usage of the term, “tessellation” or tessellating,” because it is definite what processes are involved in the process involving “tessellation of the output pattern,” which results in the facilitation of signal processing and the instant specification lacks such definition.

Claims 23-26 are indefinite by way of their dependency on claim 2.

Claim 3 is indefinite for the usage of the term, “diffusion curve.” While the term, “viral diffusion curve,” is discussed in the specification, the term, “diffusion curve,” is not defined in the specification,” so as to allow the determination of the proper metes and bounds of the term surrounding “diffusion curve.”

Claims 4, 5, 14, 21, and 23 are indefinite for the same reasons as above.

For the purpose of prosecution, the term, “diffusion curve,” is interpreted to mean any plot (i.e., graph), based on the reasonable broadest interpretation.

Claims 1 and 14-22 are indefinite for reciting the phrase, “an interferometric unit configured to generate an interference *between* the pre-conditioned digitized output pattern and a reference wave to enhance the digitized output pattern,” because it is unclear how an interference is generated between a digitized output pattern (i.e., an image) and a reference wave. While it is understood in the art that an interference generated between two beams of lights (as provided in Cabib et al. reference¹), it remains confusing how an interference is generated between an image and a wave (length). Further the term, “reference wave,” is indefinite because it is unclear what

¹ Cited in the rejection under 35 U.S.C. 102(a) and (e).

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this term is referring to. For the purpose of prosecution, the term is assumed to read on a reference light having a certain wave length).

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

The rejection of claim 2 under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for a system and a computer product which performs some type of interferometry to amplify signals associated with the biological sample, does not reasonably provide enablement for generic processing to amplify such signals as for example, claim 2, made in the Office Action mailed on March 25, 2005 is maintained for the reasons of record.

Applicants' argument received on April 20, 2005 have been fully considered but they are not found persuasive for the following reasons.

Applicants contend that claim 2 is written in mean-plus-function format and as there is sufficient corresponding structure, material or acts in the specification, one skilled in the art would know how to make and use the invention.

This argument is not found persuasive as the argument is generic without specifically pointing out what aspect of the structure, material or acts that corresponds to the means would enable a skilled artisan to make and use the claimed invention. The previous Office action clearly stated that based on the state of prior art, some form of interferometry was required in order to enable the step of amplifying the signals associated with biological.

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The rejection is maintained therefore.

Rejection – Necessitated by Amendment

Claim 20 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. This is a New Matter rejection.

Claim 20 has been amended to become drawn to a method involving the step of “preconditioning”, wherein the instant amendment recites that the preconditioning comprises the step of tessellating.

The term, “preconditioning,” is described in the instant specification, for example in section [0113]:

“Each dot spectrogram provided by the DNA biomicroarray is filtered at step 108 to yield enhanced dot spectrogram...either by performing a conventional Nucleic Assay Amplification or by applying preconditioning and normalization steps...”

The instant specification or claims, however, provides no support for a preconditioning step or unit comprising or conducting the step of tessellation.

Cancellation of new matter is required.

Claim Rejections - 35 USC § 102

The rejection of claim 1 under 35 U.S.C. 102(a) and (e) as being anticipated by Cabib et al. (U.S. Patent No. 5,784,162, issued July 21, 1998, filed December 12, 1995), made in the Office Action mailed on March 25, 2005 is withdrawn in view of careful reconsideration of the art and the application.

Double Patenting

The provisional rejection of claim 1 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 12-28 of copending Application No. 10/616,869, published as US 2004/0111219 A1, published June 10, 2004, made in the Office Action mailed on March 25, 2005 is withdrawn in view of the Terminal Disclaimer received on April 20, 2005.

The rejection of claim 1 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 7 and 13 of U.S. Patent No. 6,671,625 B1 made in the Office Action mailed on March 25, 2005 is withdrawn in view of the Terminal Disclaimer received on April 20, 2005.

The rejection of claim 1 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 22 and 25 of U.S. Patent No. 6,136,541 made in the Office Action mailed on March 25, 2005 is withdrawn in view of the Terminal Disclaimer received on April 20, 2005.

Conclusion

No claims are allowed.

Inquiries

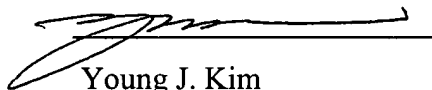
Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Young J. Kim whose telephone number is (571) 272-0785. The

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Examiner is on flex-time schedule and can best be reached from 8:30 a.m. to 4:30 p.m. The Examiner can also be reached via e-mail to Young.Kim@uspto.gov. However, the office cannot guarantee security through the e-mail system nor should official papers be transmitted through this route.

If attempts to reach the Examiner by telephone are unsuccessful, the Primary Examiner in charge of the prosecution, Dr. Kenneth Horlick, can be reached at (571) 272-0784. If the attempts to reach the above Examiners are unsuccessful, the Examiner's supervisor, Dr. Gary Benzion, can be reached at (571) 272-0782.

Papers related to this application may be submitted to Art Unit 1637 by facsimile transmission. The faxing of such papers must conform with the notice published in the Official Gazette, 1156 OG 61 (November 16, 1993) and 1157 OG 94 (December 28, 1993) (see 37 CFR 1.6(d)). NOTE: If applicant does submit a paper by FAX, the original copy should be retained by applicant or applicant's representative. NO DUPLICATE COPIES SHOULD BE SUBMITTED, so as to avoid the processing of duplicate papers in the Office. All official documents must be sent to the Official Tech Center Fax number: (571) 273-8300. For Unofficial documents, faxes can be sent directly to the Examiner at (571) 273-0785. Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (571) 272-1600.



Young J. Kim
Patent Examiner
Art Unit 1637
6/25/2005

**YOUNG J. KIM
PATENT EXAMINER**

yjk